

**Response of  
Wisconsin Power and Light Company  
to  
The Public Service Commission of Wisconsin  
Data Request No. 4.01**

Docket Number: 05-CE-137  
Date of Request: May 7, 2009  
Information Requested By: Jim Lepinski  
Date Responded: June 5, 2009  
Author: Joe Holliman / Jeff Knier  
Author's Title: Sr Asset Strategy Consultant / Manager CACP Projects  
Author's Telephone No.: (608) 458-3841 / (608) 458-4866  
Witness: (If other than Author)

---

**Data Request No. 4.01:**

Given recent EPA action on the Endangerment Finding regarding CO<sub>2</sub> as a pollutant, as well as the activity in the Congress on proposed legislation to place a cap on CO<sub>2</sub> emissions, there is a significant likelihood that absolute CO<sub>2</sub> emission reductions will be required on a unit, facility, or fleet basis. Prepare and submit an analysis addressing the following:

If CO<sub>2</sub> emissions must be reduced by 2025 by up to 30 percent from a 2005 fleet CO<sub>2</sub> emissions baseline, what assurance can you provide to the Commission that:

- a. The investment in proposed pollution controls will be cost effective, and;
- b. That the unit(s) will be in use long enough to assure that the investment will be both cost effective and not become a stranded investment.

The analysis need not use EGEAS, but it needs to quantify how the proposed construction is likely to be cost effective.

**Response:**

WPL used EGEAS to project a "break-even" point at which the difference in the discounted revenue requirements (PVRR) associated with operation of Edgewater Unit 5 with installation of the SCR and the discounted revenue requirements associated with the retirement of Edgewater Unit 5 is zero. At this point, WPL and its customers will begin to realize positive economic benefits from the installation of an SCR on Edgewater Unit 5 versus retiring Edgewater Unit 5. The attachment to this response contains a graph depicting the break-even point. Based on this analysis, WPL expects the "break-even" point to be approximately 6.5 years after the installation of the SCR, or by about 2017.

The fact that the interpolated "break-even" point occurs prior the year in which the 30 percent reduction in CO<sub>2</sub> emissions occurs (2025) as presented in this data request provides evidence that the project is cost effective for WPL and our customers.

WPL recognizes that it must make its decisions relative to proposed projects based on the best information available to it at the time. There is no “assurance” that will guarantee the results of any planning analysis for the benefit of WPL and our customers. Nonetheless, in the context of this data request, the break-even analysis supports that the project will be cost effective prior to 2025, and, therefore, would not likely become a stranded asset prior to 2025. Furthermore, in the broader context of the EGEAS study period, WPL’s most recent updated EGEAS runs show that the installation of the SCR will provide net savings to our customers relative to the alternative of retiring Edgewater Unit 5 to satisfy the RACT rule. The relative efficiency, age of the unit, and operating range, make Edgewater Unit 5 a more flexible unit to bridge WPL into a carbon constrained future, thus making the unit one of the more valuable units within WPL’s generation portfolio. This would evidence against Edgewater Unit 5 with the SCR becoming a stranded asset over the remaining operational life of the unit.

**Break-Even Analysis to determine the point at which positive benefits begin after SCR installation, relative to unit retirement.**

Retirement Year Following The Year Control was installed	PVRR of Plant Retired After Control was Installed in Spring 2011	PVRR Retire End of Year 2012 Without Controls	Life (X) End of Year (a) Less Beginning of Year 2011	Difference in PVRRs (Y)
a	b	c	d	e = c-b
2014	\$ 15,315.7	\$ 15,255.1	4	\$ (60.6)
2019	\$ 15,192.7	\$ 15,255.1	9	\$ 62.4
2024	\$ 15,083.2	\$ 15,255.1	14	\$ 171.9

